ENGINEERING PHYSICS LAB
(Common to CHEMICAL, CIVIL, MECHANICAL and MECHANICAL (ROBOTICS))

Course Code: 22BP1104

L	T	P	C
0	0	3	1.5

Course Outcomes: At the end of the Course the student shall be able to

CO1: Identify the mechanical behaviour of the materials (L3)
CO2: Analyze the dielectric behaviour of a material (L4)
CO3: Interpret some of the physical parameters based on optical phenomena (L2)
CO4: Estimate the strength of magnetic field and asses the losses in magnetization ((L4)
CO5: Demonstrate the mechanical parameters using sensors (L2)

List of Experiments (Any <u>TWELVE</u> experiments shall be completed)

1. Determination of Rigidity modulus of a material of a wire - Torsional Pendulum.
2. Determination of ultrasonic wave velocity in liquids using interferometer.
3. Determination of Acceleration due to Gravity and Radius of Gyration - Compound Pendulum.
4. Study of magnetic field along the axis of a current carrying coil – Stewart and Gee's apparatus.
5. Study of the B-H curve by magnetizing the magnetic material.
6. Determination of wavelength of Laser by diffraction grating.
7. Determination of particle size of lycopodium powder using LASER.
8. Determination of dielectric constant by charging and discharging method.
9. Determination of micro strain of a cantilever using strain gauge sensor.
10. Determination of Moment of Inertia of a FlyWheel.
11. Determine the thermal conductivity of a bad conductor by Lee's disc method.
12. Determination of the elastic constants of the material of a flat spiral spring.
13. Determination of the overall heat transfer coefficient at the surface of a given vertical metal cylinder by the natural convection method.
14. Verification of Newton's Law of Cooling of different liquids.

web references for some experiments:

https://vlab.amrita.edu/index.php?sub=1&brch=192&sim=972&cnt=1
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